REMARKS

This application contains claims 1-57. Claims 1, 17, 20, 36, 39, 54 and 55 are hereby amended. No new matter has been added. Reconsideration is respectfully requested.

Claims 1, 2, 6, 9-21, 25, 28-40 and 47-57 were rejected under 35 U.S.C. 102(b) over Ivanoff. Applicant has amended independent claims 1, 17, 20, 36, 39 and 55 in order to clarify the distinction of the present invention over Ivanoff. Claim 54 has been amended to correct a typographical error.

In the above-mentioned Advisory Action, the Examiner maintained his previous rejection of the claims on the grounds that "Applicant is arguing for limitations not present in the claims," specifically with regard to Applicant's definition of a parallel file system. Applicant has therefore amended the independent claims to contain an explicit definition of a "parallel file system," precisely as the term is defined in the specification (page 17, lines 12-14). Applicant believes that this amendment will put the claims in condition for allowance.

Applicant respectfully points out that the Examiner's position in the present Advisory Action is in contradiction to the agreement that was reached at the interview, held March 17, 2005. As stated in the Interview

- 20 -

Summary, it was agreed that the Examiner would reevaluate the question of whether Ivanoff discloses a parallel file system. In fact, as Applicant pointed out in the response filed April 5, 2005, there is no mention of any sort of file system in Ivanoff, let alone a parallel file system, however the term is defined. As stated in MPEP 2131:

> To anticipate a claim, the reference must teach every element of the claim. "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The Examiner did not relate to this point in the Advisory action, nor did he address other specific deficiencies in the grounds of rejection that were listed in Applicant's response of April 5.

Claim 1, as amended, recites a method for managing data storage in a cluster of computing nodes. The nodes have shared access to data storage using a parallel file system, which is now defined explicitly in the claim as a physical file system that runs on the cluster of nodes and enables all the nodes in the cluster to access the same file data concurrently. One of the nodes in the cluster is chosen to serve as the session manager node, while a second node is selected to serve as a session node for a data management (DM) application that runs on one or more of the volumes of data storage using the parallel file system. A session of the DM

application is created by sending a message from the session node to the session manager node. This message causes the session manager node to inform the other nodes in the cluster about the session. As a result, the session node receives events from the nodes in the cluster for processing by the DM application when the nodes access the one or more volumes of data storage using the parallel file system.

In view of the present amendment to the independent claims, Applicant believes the detailed grounds of rejection raised by the Examiner in the above-mentioned Official Action are now moot. Nevertheless, for the sake of completeness, Applicant will reiterate below the points made in the previous response. In the event that the claims are not allowed in the next Official Action, Applicant trusts that the Examiner will provide a detailed answer to these points.

Ivanoff describes a method and apparatus for pacing communications in a distributed, heterogeneous network. Ivanoff's method uses communication managers, which reside in local processors and are responsible for interfacing local end-users with the remainder of the network (abstract). In rejecting the claims in the present patent application, the Examiner made reference specifically to Ivanoff's Fig. 6, which illustrates the functions of the communication manager in terms of a network protocol stack (col. 11, lines 54-59).

The CM interacts with the session layer of the protocol stack (col. 37, lines 22-36, and col. 38, line 60 – col. 39, line 42). One aspect of management services performed by the CM includes event management (col. 66, line 18 – col. 67, line 57).

In the Response to Arguments in the above-mentioned Official Action, the Examiner stated that Ivanoff's "communication manager" and "adjacent communication manager" (described by Ivanoff in col. 3, lines 40-50) are equivalent to the parallel file system recited in the claims of the present patent application. The Examiner's interpretation of the term "file system" does not appear to have anything to do with data files or systems that are used to keep track of them. Ivanoff describes a communication system. In his very lengthy specification, he makes no mention whatsoever of file systems, let alone parallel file systems. In light of the explicit definition of a "parallel file system" now given in the claims, the Examiner's interpretation is completely untenable.

Furthermore, even if Ivanoff could be considered to disclose some sort of "file system," the Examiner has still not met the burden of showing that the elements of the claims in the present patent application are shown by Ivanoff "in as complete detail as is contained in the ... claim." To

illustrate this difficulty, the following chart shows all the

elements and limitations of claim 1 along with the

corresponding elements cited by the Examiner in Ivanoff as

anticipating claim 1. Applicant's comments, where

appropriate, are given in [brackets].

TABLE I - CLAIM CHART FOR CLAIM 1

Claim 1	Examiner citations in Ivanoff
In a cluster of computing nodes having shared access to one or more volumes of data storage using a parallel file system, a method for managing the data storage	Col. 103, line 10 - col. 104, line 47. [The cited passage includes method claims 4-10, which are all drawn to "a method of pacing data communications," rather than "a method for managing the data storage." There is no mention of files or file systems.]
selecting a first one of the nodes to serve as a session manager node	Fig. 6, see CM/SESSION
selecting a second one of the nodes to serve as a session node	Fig. 6, CM/SESSION (of adjacent communication manager) and col. 3, lines 40-45: "For each distribution unit, the communication manager determines an adjacent communication manager…"
for a data management application to run on the one or more volumes of data storage	MIB (?) [It is not clear whether the Examiner means that the MIB represents a "data management application" or "one or more volumes of data storage." In fact, a MIB is a database, not an application or a storage volume.]
using the parallel file system	?? [There is no mention of any file system in the cited passage (3:40-45), or anywhere else in Ivanoff.]
creating a session of the data management application on the session node	See 3:40-45. [Not clear what element in Ivanoff corresponds to the "data management application." If it is the MIB, Ivanoff makes no mention of "creating a session" of the MIB.]

Claim 1	Examiner citations in Ivanoff
by sending a message from the session node to the session manager node	Two-way communication link in Fig. 6 between CM/SESSION, MIB and CM/NETWORK… 3:40-45. [Communication between CM/SESSION, CM/NETWORK and MIB is all within the same node. No message of any kind is described in the cited passage.]
causing the session manager node to distribute information regarding the session among the nodes in the cluster	?? [There is no mention in Ivanoff of how a message sent to CM/SESSION (identified above as the session manager node) might cause CM/SESSION to distribute information regarding the session to other nodes.]
responsive to the information distributed by the session manager node, receiving events at the session node from the nodes in the cluster	See 3:40-45. [No mention here of events, and events described elsewhere by Ivanoff are not related in any way to data storage access.]
when the nodes access the one or more volumes of data storage using the parallel file system for processing by the data management application	3:40-50 – "The distribution units are then transmitted from the origin communications manager to the adjacent communications manager…" [See above questions regarding data storage and file system. There is no suggestion in Ivanoff of receiving events when data storage (MIB?) is accessed.]

Thus, Applicant respectfully submits that Ivanoff fails to teach or suggest not only the use of a parallel file system (or any file system), but also numerous other elements of claim 1. Therefore, claim 1 is believed to be patentable over the cited art. In view of the patentability of claim 1, claims 2, 6 and 9-16, which depend from claim 1, are also believed to be patentable.

Independent claims 20 and 39 respectively recite computing apparatus and a computer software product, which operate on principles similar to the method of claim 1. Therefore, for the reasons stated above, amended claims 20 and 39 are likewise believed to be patentable over Ivanoff. In view of the patentability of these independent claims, dependent claims 21, 25, 28-35, 40 and 47-54 are believed to be patentable, as well.

Independent claim 17 recites a method for managing data storage that includes initiating sessions of a parallel data management application on a plurality of nodes in a cluster. A data management event is generated when a request is submitted to a parallel file system on one (or more) of the nodes to perform a file operation on a file in a volume of data storage. The event is handled by an instance of the data management application running on the node. The claim has been amended, like claim 1, to include an explicit definition of a parallel file system.

Claim 17 was rejected on the same rationale as claim 1. As noted above, however, Ivanoff does not relate in any substantive manner to storage volumes, file systems, or data management applications involving these elements. Therefore, Applicant respectfully submits that claim 17 is patentable over Ivanoff. In view of the patentability of claim 17,

- 26 -

claims 18 and 19, which depend from claim 17, are believed to be patentable, as well.

Independent claims 36 and 55 respectively recite computing apparatus and a computer software product, which operate on principles similar to the method of claim 17. Therefore, for the reasons stated above regarding claim 17, claims 36 and 55 are likewise believed to be patentable over Ivanoff. In view of the patentability of these independent claims, dependent claims 37, 38, 56 and 57 are believed to be patentable, as well.

Claims 3-5, 7, 8, 22-24, 26, 27, 41-43, 45 and 46 were rejected under 35 U.S.C. 103(a) over Ivanoff in view of Stevenson et al. (U.S. Patent 5,023,873) or Dugan et al. (U.S. Patent 6,363,411). Applicant respectfully traverses these rejections. In view of the patentability of independent claims 1, 20 and 39, from which these claims depend, Applicant believes these dependent claims to be patentable, as well, over the cited art.
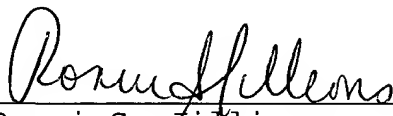
Applicant believes the amendments and remarks presented hereinabove to be fully responsive to all of the grounds of rejection raised by the Examiner. In view of these amendments and remarks, Applicant respectfully submits that all of the claims in the present application are in order for allowance. Notice to this effect is hereby requested.

If the Examiner has any questions he is invited to contact the undersigned at 202-628-5197.

Respectfully submitted,

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- 28 -